

ABSTRACT

An emulation system includes a central time source generating a time reference and an emulated spacecraft control processor which contains an embedded processor that provides an emulated input/output interface to communicate simulated spacecraft data. The embedded processor processes the simulated spacecraft data and contains a real time clock engine having a real-time clock period. The system further has a first simulation that processes attitude control system data from the emulated spacecraft control processor to simulate an attitude control system of the spacecraft in real-time. The first simulation engine operative to produce sensor data for input to the emulated spacecraft control processor based on the simulated system dynamics and adjusts the real time clock period in response to the time reference.

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